

ABSTRACT OF THE DISCLOSURE

A method and apparatus for underfilling a gap between a semiconductor die or device and a substrate, where the semiconductor die or device is electrically connected to the substrate so that an active surface of the semiconductor die is facing a top surface of the substrate with the gap therebetween. A silane layer is applied to the active surface of the semiconductor die, the upper surface of the substrate, and/or both to increase the surface tension thereon. The increased surface tension thereby allows the underfill material to fill the gap via capillary action in a lesser flow time more effectively, and therefore, is more efficient than conventional underfilling methods.

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